

find in the upper jaw, behind the large canine-like *I. 1*, and in the lower jaw, behind the similarly constituted *I. 2*, a series of four teeth, which, especially in the upper jaw, are very similar to each other, as an adaptation to the conditions under which these two amphibious Insectivores obtain their food, and to the change in their diet. We are confronted with a degeneration, but in combination also with adaptation, whereby (especially in the case of *Potamogale*, which appears to be more exclusively piscivorous than *Limnogale*) an approximation is furnished to the dentition of the Pinnipedia*. There is, however, this difference, that while in the case of the latter the *entire* dentition is now exclusively subservient to the functions of seizing and holding, in the Insectivores in question these are confined to the antemolars, since, as proved by the number and shape of their molars, they cannot, for the present at any rate, dispense with the *masticatory* apparatus.

LXVI.—*Descriptions of new Bats and Rodents from America.*
By OLDFIELD THOMAS.

Dasypterus ega xanthinus, subsp. n.

Apparently similar in all essential characters to *D. e. typicus*, in spite of the wide difference in locality, but distinguished by the clearer yellow of the back, gradually brightening backwards until on the hairy part of the interfemoral the fur is quite fulvous. Under surface dull fulvous from chin to anus, the belly-hairs blackish basally, then light fulvous gradually deepening to their tips. In the typical South-American forms the back is dirty whitish, with dark tips to the hairs, and there is little or no fulvous on the under surface.

Dimensions of the type (male):—

Forearm 47 millim.

Head and body † 68; tail † 48; hind foot with claws † 10; ear † 16.

Skull: greatest length 16.2, greatest breadth 11.4; breadth of rostrum at posterior edge of large premolar 7.

Hab. Sierra Laguna, Lower California. Six specimens examined.

D. ega is not included at all in Mr. G. S. Miller's admirable monograph of the Vespertilionidæ found north of Panama, so that its occurrence in Lower California is a most remarkable and unexpected fact, considering the extent and completeness of the collections he worked from.

* As regards the Pinnipedia cf. W. Leche, 'Zur Entwicklungsgeschichte des Zahnsystems der Säugethiere, I.' (Stuttgart, 1895), p. 66.

† Measured in flesh by collector.

Artibeus (Dermanura?) Rosenbergi, sp. n.

Size small. Anterior end of nose-leaf free, its sides without extra lobes, its upright portion unusually broad, nearly or quite as broad as the horseshoe. Ears of medium length, their inner margin evenly convex, tip rounded, outer margin with two slight concavities separated by a convexity, an indistinctly marked convex lobe below. Tragus straight, sharply pointed, its outer side with four or five sharp projecting points. Wings to the middle of the metatarsus. Interfemoral emarginate to the level of the distal third of the tibiae. Distribution of fur much as in *A. glaucus*, but the hairs on the base of the pollex and the hinder limbs are much more sparse.

Colour (in a spirit-specimen) apparently dull greyish above, slightly paler below. Four indistinct facial lines perceptible.

Skull of somewhat the same general shape as that of *A. quadrivittatus*, but decidedly narrower throughout.

Upper inner incisors small, their cusps subequal; outer incisors about half the height of the inner ones. Molars less broad than usual, the posterior one (m_2) scarcely more than one third the area in cross section of the first, which is itself only about one fifth broader than the posterior premolar. Lower incisors bicuspid, subequal, touching each other. Lower molars corresponding in size to those above, the second barely three fourths the length of the anterior one. An m_3 present on the left side only, so excessively minute that I am induced to consider the other side as the normal one.

Dimensions of the type (an adult male in spirit):—

Forearm 37 millim.

Head and body 54; ear from notch 14.5; tragus 4.7; nose-leaf, length 11, breadth of horizontal part 5.9, of upright part 5.8; length of lower leg 14; calcar 5; depth of interfemoral in centre 9.

Skull: basal length 16.5; greatest length 21; zygomatic breadth 11.1; intertemporal breadth 5.2; palate, length 9.7, breadth outside m_1 8.3, inside m_1 4.2; tip to tip of upper canines 4.5; front of canine to back of m_2 6.6; ditto in lower jaw 7; horizontal length of m_1 2, of m_2 1.5.

Hab. Cachavi, N. Ecuador. Coll. W. F. H. Rosenberg, 17th December, 1896.

This little species may be readily distinguished from all others by its broad nose-leaf, narrow skull, and the unusual proportions of its molars. The presence of a third lower molar on one side and not on the other is interesting, as showing the entire unreliability of the presence or absence of such teeth as a character of generic rank, and strongly

confirms Dobson's views on the subject and also those I have expressed in connexion with *Vampyrops* *.

Saccopteryx infusca, sp. n.

Similar in all essential respects to *S. (Balantiopteryx) plicata*, Pet., but rather smaller and less thickly built, much darker in colour, with decidedly narrower ears, less hairy interfemoral, and no white line along the posterior edge of the wing-membrane.

Ears narrow, inner margin faintly concave in its upper half; tip narrowly rounded off; outer margin straight above, slightly convex below. Interfemoral very thinly hairy as far as the exertion of the tail.

Colour (from a skin) dark chestnut-brown above, scarcely paler below. *S. plicata* is slaty grey.

Dimensions of the type (an adult male in spirit):—

Forearm 41 millim.

Head and body 42; tail 13; tail free from membrane 2·7; ear 11·3; tragus on inner edge 3·3; lower leg 16; calcar 14.

Hab. Cachavi, N. Ecuador. Coll. W. F. H. Rosenberg, 5th Jan., 1897.

S. plicata ranges northwards from Costa Rica to Sinaloa, W. Mexico, while the new form apparently extends also to Guatemala, as two bad specimens in the Museum from the neighbourhood of Coban (coll. F. C. Sarg) seem to be referable to it.

Nectomys saturatus, sp. n.

General size about as in the larger species of the genus, such as *N. grandis*, but the head, judged by the skull, seems to be larger and heavier. Colour above dark smoky grey-brown, much darker than in any of the other species, especially along the centre of the back, where it approaches black, owing to the very large number of shiny black-tipped hairs mixed with the fur. Sides clearer grey, not unlike the dorsal colour of *Mus decumanus*. Belly rather more sharply defined than usual, pale buffy, the bases of the hairs slate. Centre of face blackish, continuous with the dorsal dark colour. Ears rather short, their hairs blackish. Hands and feet brown above, a few whitish hairs intermixed, the digits nearly naked; claws whitish. Tail long, uniformly blackish and thinly hairy above; below, the longer swimming-hairs along the middle line are white.

Skull very stout and heavily built. Nasals broad in front, evenly tapering backwards to a point barely as far back as the level of the lacrymals, and but little surpassing

* Ann. & Mag. Nat. Hist. (6) iv. p. 169 (1889).

the premaxillary processes behind. Interorbital region broad, almost parallel-sided, the ridges strong, but becoming almost obsolete as they pass the fronto-parietal suture, then thickening again as they pass along the parietals. Interparietal large. Anterior palatine foramina of about the usual length, but, owing to the great size of the molars, their hinder end is only just in front of the level of *m*.¹ Incisors broad and strong. Molars excessively large and heavy, more so than in any other species.

Dimensions of the type (an adult male, measured in flesh by collector):—

Head and body 205 millim.; tail 238; hind foot* 54; ear 23.

Skull: greatest length 47·5, basilar length 38·5; greatest breadth 26; nasals 18·5 × 6; interorbital breadth 9; interparietal 5·5 × 11·8; palate length from hensenion 22·2; diastema 12·5; palatine foramina 8·2 × 3·4; length of upper molar series 8·7.

Hab. Ibarra, N. Ecuador, alt. 2225 metres. Coll. W. F. H. Rosenberg, 19th May, 1897.

This fine species may be readily distinguished from all others by its broad heavy skull, large molars, and sombre coloration.

Nectomys russulus, sp. n.

Size considerably smaller than in the known species of *Nectomys*, the general appearance being more that of a large clumsily-built *Oryzomys*. Fur straight, thick, and glossy; hairs of back about 13 or 14 millim. in length, the underfur less woolly and less markedly different from the longer fur than in the other species. General colour dark russet-brown, very uniform in tone, without special markings anywhere, the light-coloured rings of the hairs dark fulvous. On the sides, as usual, the fulvous becomes rather clearer and the general tone lighter. Belly not sharply defined, little paler than the sides, its hairs slaty basally, dull buffy or clay-colour terminally. Ears rather small, thinly haired, practically naked. Upper surface of hands and feet brownish. Tail long, excessively finely scaled, very thinly clothed, dull brownish above and below.

Skull heavily built, very like that of an ordinary *Nectomys* in miniature. Nasals evenly narrowing backwards, not contracted at their centres. Interorbital region broad and flat, its edges very strongly ridged, the ridges well developed

* Attention may be again drawn to the fact that all hind-foot measurements taken by myself or by British collectors are without the claws, as opposed to the American method of including them.

right back across the parietals to the outer corners of the interparietal, at which point they turn abruptly downwards and outwards. Anterior palatine foramina rather small, ending about 1.5 millim. in front of the level of *m*.¹ Posterior nares very broad, open and rounded.

Teeth very stout and heavy. Incisors thick and strong. Molars broad and rounded, twice the bulk of those of an average *Oryzomys* of the same size, and but little smaller than those of *Nectomys squamipes*.

Dimensions of the type (an aged female, measured by collector in the flesh) :—

Head and body 150 millim.; tail 180; hind foot 35; ear 19.

Skull: greatest length 36, basilar length 29.1; greatest breadth 19.7; nasals 14.6 × 4.5; interorbital breadth 6.6; interparietal 3.8 × 8.5; length of zygoma-root 4.7; palate length from henselion 17; diastema 10.4; anterior palatine foramina 6 × 2.6; length of upper molar series 6; width of posterior nares 3.2.

Hab. Valdivia, Colombia, alt. 1200 metres. Coll. A. E. Pratt, 7th July, 1897.

This species bears much the same proportion to the other members of *Nectomys* that the little *Holochilus nanus* does to the large rats of that genus. It shows less obvious adaptation to an aquatic life than its congeners, although its fur is equally glossy, and there is a slight indication of webbing to the hind feet.

Oryzomys peninsulæ, sp. n.

A large species allied to *O. Couesi* and *O. fulgens*. Fur thick, close and rather woolly, about 10 millim. in length on the back. Colour of head and fore back pale greyish, gradually changing to dull fulvous on the rump, the latter colour closely similar to the general colour of *O. Couesi*. Darker lining on back little conspicuous. Under surface dull white, not sharply defined; the hairs slaty basally. Ears thinly hairy, pale brown. Hands and feet uniformly silvery white above. Tail thinly haired, brown above, darkening terminally, whitish below. Skull stout and heavy, with well-defined supraorbital ridges.

Dimensions of the type (an adult male, measured in the flesh) :—

Head and body 148 millim.; tail 150; hind foot, with claws, 34; ear 18.

Skull: basilar length 27.3; greatest breadth 18.7; nasals 13 × 3.9; palatine foramina 7 × 3; length of upper molar series 5.

Hab. Santa Anita, Lower California. Six specimens examined.

So far as I am aware, no *Oryzomys* has hitherto been described from Lower California, where the occurrence of one of these reddish tropical forms is a matter of much interest.

Akodon pulcherrimus, sp. n.

A large *Akodon* of a very dark colour, with prominent white ear-patches.

Size rather large. Fur long, soft and thick, 12 or 13 millim. in length on the back. General colour deep fuscous brown, perhaps nearest to Ridgway's "mummy-brown," quite unlike that of any other species known to me. The long hairs are black, the shorter hairs dark slaty basally, dull orange fulvous terminally; this colour extends over the upper surface of the face and crown, down the nape, and over the whole back and down the outer side of the forearms, but is very sharply separated on the sides from the pure white of the under surface, which not only extends from chin to anus, but runs up on each side to form a large and prominent patch below and behind the ears; the breadth between the patches, across the dark colour of the nape, is only about 10 or 11 millim. On the rump the dark dorsal colour also ends higher up than usual, and is abruptly replaced by white on the hams. The hairs of the belly, although white terminally, are slaty basally, but on the chin and ear-patches the hairs, or, at least, most of them, are snowy white to their roots. Ears of fair length, well-haired, their outer surface black anteriorly, whitish posteriorly, their inner surface with their posterior fourth black, margined in front with white. When the ears are folded the visible surface is in consequence black anteriorly and posteriorly, with whitish hairs between. Hands and feet whitish, but the heels and ankles are more or less suffused with fulvous; claws of medium length. Tail about the length of the body without the head, well-haired, prominently black above, whitish or pale fulvous below, a narrow line of deep fulvous margining the black.

Skull and teeth apparently of normal Akodont structure. Brain-case and supraorbital ridges rounded; zygomata not boldly expanded; interparietal small and narrow. Anterior palatine foramina ending opposite the first third of *m*.¹

Dimensions of the type (an adult female, measured in flesh by collector):—

Head and body 110 millim.; tail 80. Re-made, the skin measures 115, tail 84, hind foot (moistened) 23, ear (moistened) 15·5.

Skull: basal length 24, basilar length 22·5; greatest breadth 13·6; nasals 11·1 × 3·4; interorbital breadth 4·7; palate length from lenselion 12; diastema 7·6; palatal foramina 6·6 × 2·2; length of upper molar series 4·1.

Hab. Puno, Peru, alt. 4000 metres.

Type: B.M. no. 97. 10. 3. 33. Coll. J. Kalinowski, June 15, 1896.

Of this wonderful and uniquely coloured mouse Mr. Kalinowski fortunately obtained three specimens. Had there been only one it might have been supposed to be partially albinistic.

Mr. Kalinowski also obtained in the same district examples of *Phyllotis boliviensis*, Waterh., *Reithrodon pictus*, Thos., and *Ctenomys opimus*, Wagn. Neither *Phyllotis* nor *Ctenomys* had been previously recorded from Peru.

Echimys gymnurus, sp. n.

Size about as in *E. semispinosus*. Pelage much less uniform in character than in the allied species, the spines, owing to their unusual thickness and length, contrasting markedly with the hairs, not only to the touch, but to the sight; spines uniformly distributed over the whole of the upper surface, though longer and stronger on the back. General colour deep rich ferruginous, lined with black, and much broken on the back by the black ends of the dorsal spines; the hairs throughout are dull slaty basally, with bright ferruginous tips. Spines of the central back about 29 or 30 millim. in length by 2 millim. in breadth at the broadest part near the base, whence they taper evenly to the strong sharp point; in colour they are white for their basal and black for their terminal halves, but on the sides there is a subterminal dusky band, succeeded by a pale reddish tip. Head rather darker than body, the mixture of black and rufous finer. Under surface sharply defined, white from chin to anus, the dark colour approximating a little on each side under the throat. Forearms and upper surface of hands brown, digits almost naked. Legs brown; metatarsals and digits very thinly covered with silvery hairs. Tail practically naked, the few finer hairs imperceptible without a lens, the scales large and prominent; upper surface grey, lower white.

Skull very rugged, with strongly marked ridges and crests; muzzle long and narrow. Nasals long, evenly tapering backwards, their hinder edges obliquely truncated, their line of truncation continuous with the oblique hinder edge of the premaxillary processes; their tip just level with the ascending zygomatic root. Supraorbital ridges evenly and widely curving outwards, then converging again across the parietals, along which they run as single distinct ridges nearly to the outer corners of the interparietal. Ascending root of zygoma excessively slender when viewed laterally, though more than

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1½ millim. broad when viewed from in front. Palate excavated to or in front of the junction between $m.^2$ and $m.^3$. Bullæ unusually small and low, the basal bone between them much broader than in other species.

Dimensions of the type (an adult male, measured in flesh by the collector):—

Head and body 254 millim.; tail 182; hind foot 51; ear 22.

Skull: basilar length 41, greatest length 60; greatest breadth 28; nasals 22×6.8 ; interorbital breadth 12.5; greatest breadth on supraorbital ledges above squamosals 23.6; interparietal 7.5×11 ; palate length from henselion 19.5; diastema 12.9; palatal foramina 4.5×2.9 ; length of upper molar series 9; breadth between bullæ on basilar suture 4.5.

Hab. Cachavi, N. Ecuador, altitude 170 metres. Coll. W. F. H. Rosenberg, 27th Nov., 1896.

This handsome *Echimys* differs from Tomes's *E. semispinosus**, also from Ecuador, but without exact locality, by its richer rufous colour, the uniform distribution of the spines over the back and flanks, the much greater length and strength of the spines themselves, the nakedness of the tail, the structure of the posterior nasal region, and the flatter bullæ. In all these points the Bogota *Echimys* assigned last year † to *E. semispinosus* agrees much better with Tomes's description than does that brought home by Mr. Rosenberg, in spite of the Ecuadorean locality of the latter.

Lepus andinus, sp. n.

Size small, about as in *L. sylvaticus*; much larger than in *L. brasiliensis*. General tone of colour dusky, the markings dull and inconspicuous. Forehead suffused with brownish; cheeks and sides of neck ashy grey. Nape dull rufous. Back rather more heavily lined with black than in *L. sylvaticus*, the bases of the hairs very dark slaty. Rump with a dull reddish suffusion, which passes down on the legs to the heels. Chin and belly dull whitish, the hairs slaty for more than half their length; chest dull slaty grey, relieved by a few buffy hairs. Ears rather short, though longer than in *L. brasiliensis*, grey basally, blackish brown for their terminal halves. Outside of forearm dull rufous, hands and feet whitish. Tail a mere stump, hidden in the fur, coloured like the rump.

Skull rather similar in general proportions to that of *L. sylvaticus*. Interorbital region slightly concave. Post-

* P. Z. S. 1860, p. 265.

† Ann. & Mag. Nat. Hist. (6) xviii. p. 312 (1896).